

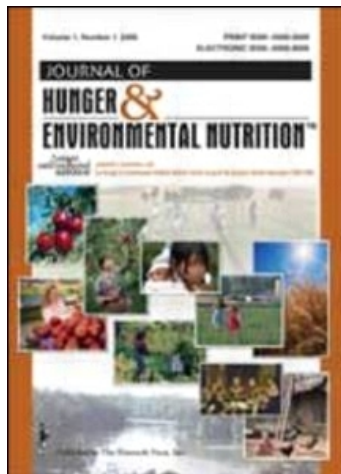
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## What Should the Government Mean by *Hunger*?

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*Nationally representative survey data provide insight into how the voting public thinks the word hunger should be used in government reports. The median perception of the least severe condition appropriately described as hunger is that people “. . . sometimes could not afford to eat enough. They did not feel weak or dizzy, but they did have stomach pains.” However, there was not a narrow consensus on the appropriate use of the term hunger, and respondents’ viewpoints on this issue were only weakly related to demographic characteristics, income, political preferences, and the extent to which hunger was considered a salient issue. If hunger is measured in a survey or the word hunger is used to describe other measured conditions, such as food insecurity, it is important to communicate clearly the intended meaning of the word.*

**KEYWORDS** *hunger, food security, food insecurity, meaning of hunger*

### INTRODUCTION

Information about the incidence of hunger is of considerable interest and potential value for policy and program design. The extent of hunger is frequently cited as an indicator of how well or how poorly the economy

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Views expressed in this article are those of the authors and may not be attributed to the Economic Research Service or the US Department of Agriculture.

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and the social safety net are functioning. The federal government's food assistance programs, operated by the US Department of Agriculture (USDA) are intended, in part, to prevent or alleviate hunger, so the USDA is interested in knowing the extent of hunger and who is affected by it. Private charities and advocacy organizations that focus on food and nutrition issues also want information on the extent of hunger for planning and evaluation of their programs.

But providing precise and useful information about hunger is hampered by lack of a consistent meaning of the word. *Hunger* is understood variously by different people to refer to conditions across a broad range of severity, from "the uneasy or painful sensation caused by lack of food" (a dictionary definition underlying the reporting language the USDA used prior to 2006) to prolonged clinical undernutrition. A survey of likely voters sponsored by the Alliance to End Hunger and conducted by McLaughlin & Associates in 2007 provides insight into how the general public thinks the word *hunger* should be used in government reports.

The issue of whether and how the word *hunger* should be used in connection with the concept of food insecurity has been a topic of vigorous discussion since the federal government began measuring and monitoring household food security in 1995.<sup>1,2</sup> The government's food security measurement project initially described 2 ranges of food insecurity as "food insecure without hunger" and "food insecure with hunger," with the clarification that *hunger* in these descriptions referred to "the uneasy or painful sensation caused by a lack of food" but only if that lack of food intake was due to inadequate money and other resources for food.<sup>1-4</sup>

In 2006, the Committee on National Statistics (CNSTAT) recommended that the word *hunger* not be used to describe ranges of food insecurity.<sup>5</sup> At the end of the first decade of federal food security monitoring, the USDA had asked CNSTAT to convene an independent panel of experts to review the USDA's food security measurement methods and the language used to describe food insecure conditions. The CNSTAT panel concluded that in the context of official statistics and public policy discourse, the word *hunger* should be used only to refer to a more severe condition than that for which the label was used by USDA. The word *hunger*, the panel stated, ". . . should refer to a potential consequence of food insecurity that, because of prolonged involuntary lack of food, results in discomfort, illness, weakness, or pain *that goes beyond the usual uneasy sensation* [italics added]."<sup>5</sup>

The recommendation of the CNSTAT panel also reflected a concern that hunger should be measured as a physiological phenomenon at the individual level, whereas food security, as measured by current methods, reflects primarily the extent to which economic access to food is adequate at the household level. However, whether hunger is measured as a

phenomenon separate from food insecurity or the likely presence of hunger of some household members is inferred from reports of behaviors and conditions that indicate food insecurity at the household level, the issue of the severity of the physiological condition that should be described as hunger remains critical.

Based on that concept of hunger and on the lack of a one-to-one correspondence between food insecurity and hunger, the CNSTAT panel recommended that the USDA avoid using the word *hunger* to characterize a severe range of food insecurity. The panel recommended that the USDA continue to measure and monitor household food insecurity and develop methods to measure hunger, because no validated methods for such a measurement currently exist.

It is important to know what the public thinks the word *hunger* means and, specifically, what conditions the word should refer to in official reports of the government. If a new measure is to be developed to measure hunger, as recommended by CNSTAT, it is important that the condition measured and described as hunger be consistent with public understanding of the meaning of the word in that context. In the absence of a specific measure of hunger, it is important that both the government and anti-hunger advocacy organizations be aware of public perceptions if they use the word *hunger* to describe ranges or consequences of food insecurity.

## DATA AND METHODS

In June 2007, McLaughlin & Associates conducted a random digit dial survey of 1000 likely voters, sponsored by the Alliance to End Hunger.<sup>6</sup> Respondents were informed that the call was from a national public opinion firm conducting a “short public opinion survey.” Respondents were asked how likely they were to vote in the November 2008 general elections for president and the US congress; those who responded with “Definitely voting,” “Probably voting,” or “50/50 chance of voting” were administered the remainder of the survey.

After 2 general questions about salience of a range of issues, a series of questions focused on “hunger” or “hunger and poverty.” Therefore, respondents would have been aware that hunger was an important issue in the survey. (The questionnaire is presented in Appendix A.)

At the end of the questions about hunger, respondents were asked a series of questions about how the government should use the word *hunger*.

First, the following lead-in was read to inform the respondent of the objective and context of the series:

The government wants to track and record how many hungry people there are in the United States. How do you think the government should

define the word “hunger”? I’m going to read you experiences reported by five different people. Please tell me whether you think each situation is hunger, might be hunger, or is not hunger.

Then 5 scenarios of differing severity were described, and the respondent was asked whether each scenario “is hunger, might be hunger, or is not hunger.” The scenarios were designed to reflect an ordered progression by indicating that specific conditions were experienced and more severe conditions were not. The question order was randomized for each respondent at administration, so responses that were consistent with the severity order of the questions indicate careful attention and thoughtful response. In order of decreasing severity the scenarios were as follows:

- QH1 (Question 29). “They could not afford to eat enough on several days. They felt weak and dizzy, and they got sick and lost weight as a result.”
- QH2 (Question 30). “They could not afford to eat enough on several days. They did not get sick or lose weight, but they did feel weak and dizzy.”
- QH3 (Question 31). “They sometimes could not afford to eat enough. They did not feel weak or dizzy, but they did have stomach pains.”
- QH4 (Question 32). “They sometimes ate less than they thought they should for lack of money, but they ate enough to feel ok.”
- QH5 (Question 33). “They could not afford to eat nutritious meals, but they did not have to cut the size of their meals.”

The prevalence of missing responses was analyzed to assess how difficult respondents found the series. The consistency of responses to the set of questions was assessed by comparing the response to each question with responses to more severe and less severe questions. If the response to any of the 5 questions was out of order (ie, a less severe condition judged more likely to be hunger than a more severe condition), then the respondent’s set of responses was classified as “not consistently ordered.” Because the questions were randomly ordered at administration, the consistency of responses provides some insight into how well the questions were understood.

Responses to the questions were tabulated, and percentages of valid responses (responses of “don’t know” and “refused” were not considered valid) were tabulated for each question. Answers to each question were compared among 3 groups of respondents: those with valid and consistently ordered responses to all 5 questions, those with 1 or more missing responses but with their valid responses consistently ordered, and those with responses not consistently ordered.

Because response frequencies were similar in the 3 groups, and because a large proportion were consistently ordered, descriptives (medians and quartile points) of “what hunger should mean” were calculated based on item responses by all respondents, assuming perfect ordering.

To explore the extent to which perceptions of the meaning of *hunger* might differ among respondents with different personal situations and political orientations, median responses to each of the 5 hunger scenarios were compared across various subpopulations of the respondents. Comparison characteristics included gender, age, marital status, race and Hispanic ethnicity, urban/suburban/rural residence, census region, income, political affiliation and preference, religion, and the extent to which hunger was a salient issue for the respondent. Each classification except the salience of hunger was based on the response to a single survey question. The salience of hunger as a political and moral issue was measured by combining responses to 11 questions. Details of this measure are provided in Appendix B.

Finally, ordinary least squares regression was used to assess the extent to which respondents' perceptions of hunger were associated with their personal characteristics, political affiliations and preferences, and the extent to which they considered hunger to be a salient issue. Since QH3 (had stomach pains) represented the least severe condition considered to be "hunger" by the median respondent, a dichotomous variable identifying respondents who answered that QH3 "is hunger" was regressed on a set of variables representing the characteristics and orientations described in the previous paragraph. Details of the regression are included in Appendix C.

## FINDINGS

In spite of the complexity of the questions in the context of a telephone survey, only a small proportion of respondents were unable or unwilling to answer. Thirty-one respondents (3.1%) provided no responses to any of the 5 items and are omitted from all further analysis. Of those with a valid response to any of the 5 questions about the meaning of hunger, 89.8% responded to all 5 questions, and another 7.3% missed only a single question. Somewhat larger proportions failed to answer QH3 and QH5 (3.7% and 5.0%, respectively, of those with any valid responses) than the other three questions (about 2% each; Table 1).

Responses were consistently ordered for 77.5% of respondents who answered all 5 questions about the meaning of hunger and for 84.7% of respondents with 2, 3, or 4 valid responses (analysis not shown).

Typical perceptions of what *hunger* should mean and the range of consensus were explored by examining the medians and the 25th and 75th percentiles based on responses to individual questions (with perfect ordering assumed). Answers of all those that provided valid responses to any of the 5 "meaning of hunger" questions were included in these calculations, but percentages in response categories for each question were calculated using

**TABLE 1** Perceptions of How the Word *Hunger* Should be Defined by the Government

	Most severe condition experienced <sup>a</sup>				
	QH1 got sick and lost weight	QH2 felt weak and dizzy	QH3 had stomach pains	QH4 ate less than they thought they should	QH5 could not afford to eat nutritious meals
Number of respondents					
Is hunger	794	644	495	221	157
Might be hunger	136	243	325	325	265
Is not hunger	23	62	113	402	499
Don't know/refused	47	51	67	52	79
Total	1000	1000	1000	1000	1000
Total valid	953	949	933	948	921
Missing all 5 questions	31	31	31	31	31
Missing just this question	16	20	36	21	48
Percent of valid responses (omitting don't know/refused)					
Is hunger	83.3	67.9	53.1	23.3	17.0
Might be hunger	14.3	25.6	34.8	34.3	28.8
Is not hunger	2.4	6.5	12.1	42.4	54.2
Is hunger or might be hunger	97.6	93.5	87.9	57.6	45.8
Is not hunger or might not be hunger	16.7	32.1	46.9	76.7	83.0

<sup>a</sup>The description of each scenario explicitly stated that the next more serious condition did not occur. Source: Calculated by the authors using data from the McLaughlin & Associates 2007 survey of likely voters, sponsored by The Alliance to End Hunger.

only valid responses to that question. The robustness of the results was checked with the sample restricted to those with consistently ordered responses to all five questions (analysis not shown). The 25th, 50th, and 75th percentile points for the complete and consistent subsample did not differ from those for the entire sample.

The median perception was that the least severe condition the government should definitely describe as hunger is QH3 (people sometimes could not afford to eat enough and had stomach pains, but they did not feel weak or dizzy). The median perception was that scenario QH4 (people sometimes ate less than they thought they should for lack of money but ate enough to feel ok) might be hunger, but that inability to afford nutritious meals (QH5) should not be described as hunger in the absence of more severe indications.

However, perceptions were not very tightly clustered around the median. At the least severe extreme, 17% of respondents thought that inability

to afford nutritious meals should be described as hunger even if people did not have to cut the size of their meals, and an additional 28.8% thought that condition might be hunger. At the other extreme, 2.4% thought that even the most severe scenario described (could not afford to eat enough on several days, felt weak and dizzy, got sick and lost weight) should not be described as hunger and another 14.3% were not sure that it should be described as hunger.

There was a considerable range of opinion even among the central half of the sample (ie, central with respect to their view of what hunger should mean). The 25th percentile beginning from the respondent with the most inclusive view of hunger agreed with the median that the least severe condition that should definitely be described as “hunger” is QH3 but thought that even QH5 (could not afford to eat nutritious meals) might be hunger. At the other extreme, the 25th percentile beginning from the respondent with the most severe view of hunger thought that only the most severe condition—getting sick and losing weight—should definitely be described as hunger, and QH2 and QH3 might be hunger.

Some uncertainty about the meaning of hunger, at least as described by the series of questions in this survey, characterized most individual respondents as well as being evidenced across the group of respondents. Of the 674 respondents with complete and consistent responses, 62% responded “might be hunger” to at least one of the 5 items, and 37% responded “might be hunger” to 2 or more items (analysis not shown). Even with the sample limited further to those who responded “is not hunger” to the least severe question and “is hunger” to the most severe, 58% responded “might be hunger” to at least one question and 22% to 2 or 3 questions.

A person’s view of how the word *hunger* should be used may depend to some extent on his or her personal situation and life experience. However, as depicted by the differences in median perceptions this association was modest. The median perception in a substantial majority of the subpopulations examined in this study matched that of the overall sample (Tables 2 and 3). Median perceptions of what is, and what might be, hunger did not differ between genders, age groups, marital status, urban-rural residence, or religion.

Compared with the national median, the median perception of the least severe condition that should be described as hunger was one scenario more stringent (QH2—felt weak and dizzy) for respondents:

- in the Midwest and West;
- in households with annual incomes higher than \$40 000;
- for those affiliated with the Republican Party and for political independents;
- for those reporting their political beliefs as “very conservative;”
- for those for whom hunger is not a salient issue. (Salience of hunger as a political and moral issue was measured by combining responses to 11 questions. Details of this measure are provided in Appendix B.)



**TABLE 2** Median Perceptions of How the Word *Hunger* Should be Defined by the Government, by Respondent Characteristics

Characteristic	Most severe condition experienced <sup>a</sup>				
	QH1 got sick and lost weight	QH2 felt weak and dizzy	QH3 had stomach pains	QH4 ate less than they thought they should	QH5 could not afford to eat nutritious meals
Median perception					
All respondents	Is hunger	Is hunger	Is hunger	Might be hunger	Is not hunger
Gender					
Male	Is hunger	Is hunger	Is hunger	Might be	Is not
Female	Is hunger	Is hunger	Is hunger	Might be	Is not
Age					
26–44 years	Is hunger	Is hunger	Is hunger	Might be	Is not
45–64 years	Is hunger	Is hunger	Is hunger	Might be	Is not
65 years and older	Is hunger	Is hunger	Is hunger	Might be	Is not
Marital status					
Single, never married	Is hunger	Is hunger	Is hunger	Might be	Is not
Married	Is hunger	Is hunger	Is hunger	Might be	Is not
Separated, divorced, or widowed	Is hunger	Is hunger	Is hunger	Might be	Is not
Race and Hispanic ethnicity <sup>b</sup>					
White non-Hispanic	Is hunger	Is hunger	Is hunger	Might be	Is not
African American/black	Is hunger	Is hunger	Is hunger	Might be	Might be
Hispanic	Is hunger	Is hunger	Is hunger	Might be	Might be

(Continued)

TABLE 2 (Continued)

Characteristic	Most severe condition experienced <sup>a</sup>				
	QH1 got sick and lost weight	QH2 felt weak and dizzy	QH3 had stomach pains	QH4 ate less than they thought they should	QH5 could not afford to eat nutritious meals
Residence					
Urban	Is hunger	Is hunger	Is hunger	Might be	Is not
Suburban	Is hunger	Is hunger	Is hunger	Might be	Is not
Rural	Is hunger	Is hunger	Is hunger	Might be	Is not
Census region					
Northeast	Is hunger	Is hunger	Is hunger	Might be	Is not
Midwest	Is hunger	Is hunger	Might be	Might be	Is not
South	Is hunger	Is hunger	Is hunger	Might be	Is not
West	Is hunger	Is hunger	Might be	Might be	Is not
Annual household income					
Up to \$40 000	Is hunger	Is hunger	Is hunger	Might be	Is not
\$40 001 to \$75 000	Is hunger	Is hunger	Might be	Might be	Is not
\$75 001 and higher	Is hunger	Is hunger	Might be	Might be	Is not

<sup>a</sup>The description of each scenario explicitly stated that the next more serious condition did not occur.

<sup>b</sup>Sample sizes for Asian and "Other" race or ethnicity categories were too small to provide reliable estimates.

Source: Calculated by the authors using data from the McLaughlin & Associates 2007 survey of likely voters, sponsored by The Alliance to End Hunger.

**TABLE 3** Median Perceptions of How Government Should Define the Word “Hunger,” by Respondent’s Political Preferences, Religious Affiliation, and Extent to Which They Consider Hunger to be a Salient Issue

Characteristic	Most severe condition experienced <sup>a</sup>				
	QH1 got sick and lost weight	QH2 felt weak and dizzy	QH3 had stomach pains	QH4 ate less than they thought they should	QH5 could not afford to eat nutritious meals
All respondents	Is hunger	Is hunger	Is hunger	Might be hunger	Is not hunger
Party affiliation					
Republican	Is hunger	Is hunger	Might be	Might be	Is not
Democrat	Is hunger	Is hunger	Is hunger	Might be	Might be
Independent	Is hunger	Is hunger	Might be	Might be	Is not
Political beliefs					
Very liberal	Is hunger	Is hunger	Is hunger	Might be	Might be
Somewhat liberal	Is hunger	Is hunger	Is hunger	Might be	Is not
Moderate	Is hunger	Is hunger	Is hunger	Might be	Is not
Somewhat conservative	Is hunger	Is hunger	Is hunger	Might be	Is not
Very conservative	Is hunger	Is hunger	Might be	Is not	Is not
Religion					
Protestant	Is hunger	Is hunger	Is hunger	Might be	Is not
Catholic	Is hunger	Is hunger	Is hunger	Might be	Is not
All others or no religion <sup>b</sup>	Is hunger	Is hunger	Is hunger	Might be	Is not
Salience of hunger as an issue					
High	Is hunger	Is hunger	Is hunger	Might be	Might be
Moderate	Is hunger	Is hunger	Is hunger	Might be	Is not
Low	Is hunger	Is hunger	Might be	Is not	Is not

<sup>a</sup>The description of each scenario explicitly stated that the next more serious condition did not occur.

<sup>b</sup>Includes those reporting Jewish, Mormon, Muslim/Islam, Atheist/Agnostic, “Other,” and those who did not respond. Individual categories were too small to provide reliable estimates.

Source: Calculated by the authors using data from the McLaughlin & Associates 2007 survey of likely voters, sponsored by The Alliance to End Hunger.

The median perception of scenario QH4 (Ate less than they thought they should, but ate enough to feel ok.) by almost all groups was that this might be hunger. Only among those with very conservative political beliefs and those for whom hunger is not a salient issue was the median perception of this condition “not hunger.”

The median perception of several groups included scenario QH5 (Could not afford to eat nutritious meals, but did not have to cut the size of their meals) in the range that might be hunger. This was the case for African Americans/blacks, Hispanics/Latinos, those affiliated with the Democratic Party, those with “very liberal” political beliefs, and those for whom hunger is a highly salient issue.

The associations described above accounted for only a small proportion of the variation in respondents' perceptions of how the word *hunger* should be used. For all categories that were analyzed, the median perception of the least severe condition that should be called hunger was either QH2 or QH3. In the regression analysis of whether respondents considered that scenario QH3 is hunger, the adjusted R-squared was only .056 (see Appendix C). In other words, less than 6% of the variation in whether respondents considered that scenario QH3 is hunger was accounted for by the combined factors of age, gender, marital status, race and Hispanic ethnicity, income, urban/suburban/rural residence, census region, liberal versus conservative political preference, political party affiliation, and the extent to which hunger is considered a salient issue.

## DISCUSSION

The median perception by the voting public of the way the government should define *hunger* is consistent with the usage by the USDA prior to 2006. Households classified as "food insecure with hunger" had reported conditions from which hunger, in the sense of the "uneasy or painful sensation caused by lack of food," could be inferred. This is essentially the condition described in QH3 (Sometimes could not afford to eat enough, did not feel weak or dizzy but did have stomach pains). Households classified as "food insecure with hunger" (now described by the USDA as having "very low food security") had either: (1) reported that one or more household members had, at times during the year, been hungry but did not eat because there was not enough money for food, or (2) reported that adults had cut the size of meals or skipped meals in 3 or more months because there was not enough money for food. In either case, they also reported that adults in the household had eaten less than they felt they should, that they could not afford to eat balanced meals, that the food they bought did not last and they did not have money to get more, and that they had worried that their food would run out before they had money to buy more. Based on a large body of research on the physical manifestations of hunger, the team that specified and labeled the original range of "food insecurity with hunger" concluded that the combined evidence of these responses was sufficiently strong for the occurrence of hunger (in the sense of the uneasy or painful sensation) in at least some members of the household.<sup>2</sup>

The condition described as the appropriate referent for the word *hunger* by the CNSTAT panel—discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation—is somewhat more severe than the median perception of the appropriate use of the word *hunger* in this survey. The CNSTAT description is approximately equivalent to QH2 (Could not afford to eat enough on several days, did not get sick or lose weight but did

feel weak and dizzy) with some characteristics of QH1 (which includes sickness and weight loss). Only a small proportion of respondents (6.5%) expect hunger to unambiguously refer to these latter, most severe conditions.

The consensus on the least severe condition that should be described as hunger is not, however, very strong. At the national level, the median perception that QH3 was sufficiently severe to be termed hunger was shared by only 53.1% of respondents, and nearly half of those (23.3%) thought that a less severe condition was also hunger. Furthermore, in 2 of the 4 census regions, and among medium-income and high-income respondents—comprising 62% of those reporting income—QH2 (Could not afford to eat enough on several days, did not get sick or lose weight but did feel weak and dizzy) was the median perception of the least severe condition that should be called hunger.

There is a wide dispersion in perceptions of the meaning of *hunger*. On the one hand, nearly half (45.8%) of respondents think that inability to afford nutritious meals, even absent any more severe indications, is, or might be, hunger. This is approximately the condition USDA describes as low food security (formerly food insecurity without hunger). At the other extreme, 16.7% are not sure that the most severe conditions described (Could not afford to eat enough on several days, felt weak and dizzy and got sick and lost weight as a result) should be called hunger.

It appears to be generally incorrect to attribute a person's view of the meaning of hunger to political motives or to his or her concern or lack of concern about hunger. Although such associations were observed in this study, they were only weakly associated with respondents' views on how severe conditions needed to be to be described as hunger.

If hunger is to be measured in a survey—however it may be conceptualized or operationalized—it will be important to communicate clearly the intended meaning of the word when results are reported. Similarly, if the word *hunger* is used to describe other measured conditions such as food insecurity, severe food insecurity, or very low food security, it is important to communicate clearly the intended meaning of the word. Even usage consistent with the median perception of the appropriate referent for hunger will mislead a substantial proportion at both ends of the perceptive spectrum if the intended meaning is not clearly described.

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## APPENDIX A

### Survey Instrument

McLAUGHLIN & ASSOCIATES  
NATIONAL VOTER STUDY  
ALLIANCE TO END HUNGER  
FINAL DRAFT  
MAY 31, 2007<sup>6</sup>

Introduction: Good evening. My name is \_\_\_\_\_ and I’m calling from McLaughlin & Associates, a national public opinion firm. This evening we’re conducting a short public opinion survey and we’d like to get your opinions.

- D1. Thinking about the general elections that will be held next year, how likely are you to vote in the November 2008 elections for president and US congress? Would you say you are definitely voting; probably voting, at least a 50/50 chance of voting; or not very likely to vote in next year’s elections. If you are not registered to vote, please just say so.
1. Definitely voting (Continue)
  2. Probably voting (Continue)
  3. 50/50 chance of voting (Continue)
  4. Not very likely voting (Terminate)

5. Not registered (Terminate)
  6. DK/Refused (Terminate)
- D2. If the election for US congress were held today, would you be more likely to vote for (ROTATE) the Republican candidate or the Democrat candidate?
1. Republican candidate
  2. Democrat candidate
  3. Undecided
- D3. Thinking about the next time you vote for congress or US senate, what one issue do you view as the most important to you in deciding your vote for congress or US senate? (READ/ROTATE)
1. Improving the quality of education
  2. Reducing hunger and poverty in the United States and around the world
  3. Strengthening our military and national defense
  4. Giving people tax relief and reducing wasteful government spending
  5. Improving the economy and creating jobs
  6. Fighting crime and drugs
  7. Declining moral values
  8. Making health care more affordable and accessible
  9. Fighting terrorism and keeping America safe
  10. Protecting the environment
  11. Other (Volunteered)(Specify) \_\_\_\_\_
  12. DK/Refused (Volunteered)
- D4. Which one of the following do you think is the biggest moral issue? (READ CHOICES)
1. Fighting hunger and poverty
  2. Gay marriage
  3. Abortion
  4. OR
  5. Protecting the environment
  6. DK/Refused (DO NOT READ)
- D5. How important is a candidates' position on reducing the hunger problem when deciding your vote for congress . . . would you say very important, somewhat important, or not important at all?
1. Very important
  2. Somewhat important
  3. Not important at all
  4. DK/Refused

- D6. How supportive would you be of a candidate that is working to reduce hunger in our country and around the world? Would you say you would be very supportive, somewhat supportive, or not supportive at all?
1. Very supportive
  2. Somewhat supportive
  3. Not supportive at all
  4. DK/Refused
- D7. If a candidate for president in 2008 made fighting hunger and poverty in America and around the world a major priority, would that make you more likely or less likely to support that candidate? If this would make no difference, just say so. (Probe MORE/LESS for MUCH/SOMEWHAT)
1. Much more likely
  2. Somewhat more likely
  3. Somewhat less likely
  4. Much less likely
  5. No difference
  6. DK/Refused
- D4. Please tell me whether you agree or disagree with the following statement? "Political candidates have spent an adequate amount of time discussing hunger and poverty issues." (Probe AGREE/DISAGREE with STRONGLY/SOMEWHAT)
1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly disagree
  5. DK/Refused
- D5. Would you say that the hunger problem in the United States is getting better, staying about the same, or getting worse?
1. Getting better
  2. Staying about the same
  3. Getting worse
  4. DK/Refused
- D6. Would you say that the hunger problem in the world is getting better, staying about the same, or getting worse?
1. Getting better
  2. Staying about the same
  3. Getting worse
  4. DK/Refused



- D7. Do you feel the United States government spends too much, too little, or about the right amount of money to reduce hunger in the United States?
1. Too much
  2. Too little
  3. Right amount
  4. DK/Refused
- D8. Do you feel the United States government spends too much, too little, or about the right amount of money to reduce world hunger?
1. Too much
  2. Too little
  3. Right amount
  4. DK/Refused

### Split Sample Section

- D9.A Which one of the following is the best reason for working to reduce hunger **in the United States**? (READ & ROTATE QUESTIONS)
1. It is the moral and right thing to do
  2. It can help people escape poverty and get better jobs
  3. Elderly who are hungry have more health problems
  4. Hunger can have long-term impacts on children's learning and development
  5. It is an important part of my religion
  6. Reducing hunger and poverty will help reduce crime and violence
  7. DK/Refused (Volunteered)
- D13.B Which one of the following is the best reason for working to reduce hunger **in the United States**? (READ & ROTATE QUESTIONS)
1. It is the moral and right thing to do
  2. It can help people escape poverty and get better jobs
  3. Elderly who are hungry have more health problems
  4. Hunger can have long-term impacts on children's learning and development
  5. It is what God wants us to do
  6. Reducing hunger and poverty will help reduce crime and violence
  7. DK/Refused (Volunteered)
- D10.A Which one of the following is the best reason for working to reduce hunger **around the world**? (READ & ROTATE QUESTIONS)
1. It is the moral and right thing to do
  2. It can help people escape poverty and better their lives

3. Hunger can have long-term impacts on children's learning and development
4. It is an important part of my religion
5. Reducing hunger and poverty will help reduce terrorism and violence in the world
6. DK/Refused (Volunteered)

D14.B Which one of the following is the best reason for working to reduce hunger **around the world**? (READ & ROTATE QUESTIONS)

1. It is the moral and right thing to do
2. It can help people escape poverty and better their lives
3. Hunger can have long-term impacts on children's learning and development
4. It is what God wants us to do
5. Reducing hunger and poverty will help reduce terrorism and violence in the world
6. DK/Refused (Volunteered)

#### End Split Sample Section—Continue to Ask All Respondents

D11. Do you believe there should be a cabinet-level, senior government official in the United States in charge of leading the fight against hunger and poverty in the United States and around the world?

1. Yes
2. No
3. DK/Refused

D12. Would you support or oppose a state ballot initiative to require your state government to work to end childhood hunger? (Probe SUPPORT/OPPOSE with STRONGLY/SOMEWHAT)

1. Strongly support
2. Somewhat support
3. Somewhat oppose
4. Strongly oppose
5. DK/Refused

D13. Please tell me whether you agree or disagree with the following statement? "All immigrants who are in the United States legally should be eligible for food assistance, such as food stamps." (Probe AGREE/DISAGREE with STRONGLY/SOMEWHAT)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree

4. Strongly disagree
  5. DK/Refused
- D14. Based on what you know about our government's efforts to reduce hunger, we would like you to grade the government's effectiveness in reducing hunger. If "A" means excellent, "B" means good, "C" means average, "D" means poor, and "F" means failing, what letter grade would you give the government's effectiveness in reducing hunger?
1. A—Excellent
  2. B—Good
  3. C—Average
  4. D—Poor
  5. F—Failing
  6. DK/Refused
- D15. Would you support or oppose the United States dedicating an additional 1% of the federal budget to the needs of the world's poorest people, including aid for education, hunger, poverty, clean water, children's health, and AIDS treatment? (Probe SUPPORT/OPPOSE with STRONGLY/SOMEWHAT)
1. Strongly support
  2. Somewhat support
  3. Somewhat oppose
  4. Strongly oppose
  5. DK/Refused
- D16. Currently, half of the all the money the United States spends on food aid to feed the hungry overseas goes to buying American food and then shipping it on American ships. We could buy more food for the hungry if it were purchased overseas and closer to where it is needed. Knowing this, which of the following comes closer to your own personal opinion? (READ CHOICES)
1. Our current system is a good arrangement because it benefits American farmers and businesses,  
OR,
  2. Our current system is a shame because so little money is actually used to feed the hungry
  3. DK/Refused (Volunteered)
- D17. This year, congress will be debating the Farm Bill, which provides subsidies for American farmers as well as providing food for programs to feed hungry people in America and around the world. Which of the following do you think should be congress's top priority? (READ & ROTATE CHOICES)

1. Providing money for American farmers to be sure they are not harmed by low crop prices
  2. Providing food assistance for hungry Americans
  3. Providing food for hungry people in developing countries
  4. Promoting incentives for ethanol and renewable energy
  5. Protecting crop lands by encouraging conservation.
  6. DK/Refused (Volunteered)
- D18. Some people say that farm subsidies go mainly to rich and corporate farmers. Would you agree or disagree that this money could be invested in ways that would do more to help struggling families and struggling communities in rural America? (Probe AGREE/DISAGREE with STRONGLY/SOMEWHAT)
1. Strongly agree
  2. Somewhat agree
  3. Somewhat disagree
  4. Strongly disagree
  5. DK/Refused
- D19. The food stamp program in the United States provides \$3 a day per person to eat. Do you feel that this is too much, about the right amount, or not enough to give people who need food assistance?
1. Too much
  2. About the right amount
  3. Not enough
  4. DK/Refused
- D20. Some experts say that we could cut hunger and food insecurity in half in the United States by improving and expanding nutrition programs like food stamps and school breakfast programs for children. This would cost about \$18 billion a year. Would you favor or oppose making an effort of this size to cut hunger and food insecurity in half in our country? (PROBE FOR STRONGLY/SOMEWHAT)
1. Strongly favor
  2. Somewhat favor
  3. Somewhat oppose
  4. Strongly oppose
  5. DK/Refused
- D21. Who do you agree with more? (READ CHOICES)
1. People who say we need to do more to lift people out of poverty in poor countries in places like Africa, and one of the best things to do is lower US trade barriers so those countries can be self-sufficient

and sell more goods to wealthier countries like the United States. These people say it won't cost American jobs, and it would help millions of poor people.

OR,

2. People who say we shouldn't give poor countries access to our markets because it may cost Americans. Therefore, we should only open our markets to countries that apply stronger labor and environmental rules, even if those countries are very poor.
3. DK/Refused (Volunteered)

D22. Would you favor or oppose a program to make sure every hungry child in the world had at least one meal a day available at school even if it costs the United States \$3 billion? (PROBE FAVOR/OPPOSE FOR STRONGLY/SOMEWHAT)

1. Strongly favor
2. Somewhat favor
3. Somewhat oppose
4. Strongly oppose
5. DK/Refused

D23. Given the war in Iraq and America's role as a leader in the world, do you agree or disagree that our foreign policy should focus more on helping overcome hunger and poverty in the world? (Probe AGREE/DISAGREE for STRONGLY/SOMEWHAT)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
5. DK/Refused

D24. Please tell me whether you agree or disagree with the following statement? "We can end hunger in our time. Everyone, including our government, must do their part. With the stroke of a pen, policies are made that redirect millions of dollars and affect millions of lives. By making our voices heard—writing a thoughtful letter, placing an urgent call, sending a personalized email, and motivating others to act—together we can help end the devastating cycle of hunger and poverty." (Probe AGREE/DISAGREE for STRONGLY/SOMEWHAT)

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
5. DK/Refused

D29. The government wants to track and record how many hungry people there are in the United States. How do you think the government should define the word *hunger*. I'm going to read you experiences reported by 5 different people. Please tell me whether you think each situation is hunger, might be hunger, or is not hunger.

(ROTATE QUESTIONS)	Hunger	Might be Hunger	Not Hunger	DK/Refused
D30. They could not afford to eat enough on several days. They felt weak and dizzy, and they got sick and lost weight as a result.				
D31. They could not afford to eat enough on several days. They did not get sick or lose weight, but they did feel weak and dizzy.				
D32. They sometimes could not afford to eat enough. They did not feel weak or dizzy, but they did have stomach pains.				
D33. They sometimes ate less than they thought they should for lack of money, but they ate enough to feel ok.				
D34. They could not afford to eat nutritious meals, but they did not have to cut the size of their meals.				

D35. If you had to classify yourself, would you say you are a liberal, a moderate, or a conservative in your political beliefs? (PROBE: Very/Somewhat liberal/Conservative)

- 1. Very liberal
- 2. Somewhat liberal
- 3. Moderate
- 4. Somewhat conservative
- 5. Very conservative
- 6. DK/Refused

D36. With which political party would you say you are affiliated with? (ROTATE)

- 1. Republican Party
- 2. Democrat Party
- 3. Independent (Volunteered)
- 4. Other (Specify) (Volunteered)
- 5. DK/Refused (Volunteered)

D37–D41. [Other issues]

- D42. Do you have any children in either elementary or high school?
1. Yes—elementary school
  2. Yes—high school
  3. Yes—both elementary and high school
  4. No children in school
  5. DK/Refused (Volunteered)
- D43. What is your religion?
1. Protestant
  2. Catholic
  3. Jewish
  4. Mormon
  5. Muslim/Islam
  6. Atheist/Agnostic
  7. Other (Specify) \_\_\_\_\_ (Volunteered)
  8. DK/Refused (Volunteered)
- D44. How often do you attend church or religious services?
1. More than once a week
  2. Once a week
  3. Couple times a month
  4. Once a month
  5. Rarely
  6. Never
  7. DK/Refused
- D45. Would you consider where you live to be . . . (ROTATE)?
1. Urban area
  2. Suburban area
  3. Rural area
  4. DK/Refused (Volunteered)
- D46. What is your annual household income—is it under \$20 000; between \$20 001 & \$40 000; between \$40 001 & \$60 000; between \$60 001 & \$75 000; between \$75 001 and \$100 000; or over \$100 000?
1. Under \$20 000
  2. Between \$20 001 & \$40 000
  3. Between \$40 001 & \$60 000
  4. Between \$60 001 & \$75 000
  5. Between \$75 001 & \$100 000
  6. Over \$100 000
  7. DK/Refused

D47. What is your current marital status?

1. Single, never married
2. Married
3. Separated
4. Divorced
5. Widowed
6. DK/Refused

D48. What is your race or ethnic heritage?

1. Hispanic/Latino
2. African American/black
3. Asian
4. White
5. Other (Specify) \_\_\_\_\_
6. Refused

D49. In what year were you born?

( \_ \_ \_ \_ )CODE DK/Refused as 9999

D50. Gender: (By Observation)

1. Male
2. Female

AFTER COMPLETION OF THE INTERVIEW, PLEASE CODE THE FOLLOWING INFORMATION FROM SAMPLE SHEET:

D51. State:

1. Northeast
2. South
3. Midwest
4. West

D52. Region

1. New England
2. Middle Atlantic
3. East North Central
4. West North Central
5. South Atlantic
6. East South Central
7. West South Central
8. Mountain
9. Pacific



## APPENDIX B

## Measuring the Salience of Hunger as an Issue

The extent to which an individual considers hunger to be a societal problem and a salient moral and political issue may both affect and be affected by his or her concept of hunger. The Alliance to End Hunger 2007 Survey of Likely Voters included a number of questions to elicit information on respondents' views on hunger. Responses to 11 of these questions were combined to form a 15-point index measuring the extent to which hunger is seen as an important societal and political issue.

A preliminary index of 17 points (11 questions, of which 5 were dichotomous and 6 trichotomous) was assessed using statistical methods based on the Rasch measurement model. Two of the items did not discriminate adequately as trichotomies and were collapsed to dichotomies, which performed adequately. The resulting index met assumptions of a single-parameter polytomous Rasch model sufficiently well to justify treating the raw score as an ordinal measure of the underlying latent trait of the salience of hunger.

Factor analysis of standardized residuals from the hunger salience index indicated that it comprised two distinct factors corresponding to political salience and general concern. However, the association of the two factors with responses to the questions about the meaning of hunger were very similar. The median responses to the questions about the meaning of hunger in the upper, middle, and lower third of the sample as divided by either of the subindexes was the same as those in the respective thirds of the sample as divided by the combined index. Thus, the combined hunger salience index was used for the descriptive and multivariate analyses.

The index was calculated as follows (see Appendix A for complete wording of questions and response options):

- *Hunger as a congressional voting issue:* Score 1 point if the respondent selected "Reducing hunger and poverty in the United States and around the world" as the "one issue . . . you view as the most important to you in deciding your vote for congress or US senate" in response to question D3.
- *Hunger as a moral issue:* Score 1 point if the respondent selected "Fighting hunger and poverty" in response to question D4, "Which of the following do you think is the biggest moral issue?"
- *Importance of congressional candidate's position on hunger:* Score 2 points for response of "Very important" and 1 point for response of "Somewhat important" to question D5, "How important is a candidate's position on reducing the hunger problem when deciding your vote for congress?"
- *Supportive of candidate working to reduce hunger:* Score 1 point for response of "Very supportive" to question D6, "How supportive would

you be of a candidate that is working to reduce hunger in our country and around the world?"

- *Presidential candidate priority on hunger*: Score 2 points for response of "Much more likely" and 1 point for response of "Somewhat more likely" to question D7, "If a candidate for president in 2008 made fighting hunger and poverty in America and around the world a major priority, would that make you more likely or less likely to support that candidate?"
- *Adequacy of political discussion of hunger*: Score 1 point for response of "Strongly disagree" with statement in question D8, "Political candidates have spent an adequate amount of time discussing hunger and poverty issues." (In the preliminary index, this question was entered as a trichotomy, with 2 points for response of "Strongly disagree" and 1 point for response of "Somewhat disagree." The item did not discriminate adequately as a trichotomy, but the most extreme response discriminated adequately as a dichotomy.)
- *Government spending on hunger*: Score 1 point for response of "Too little" to question D11, "Do you feel the United States government spends too much, too little or about the right amount of money to reduce hunger in the United States?"
- *Cabinet-level anti-hunger position*: Score 1 point for response of "Yes" to question D15, "Do you believe there should be a cabinet-level, senior government official in the United States in charge of leading the fight against hunger and poverty in the United States and around the world?"
- *State ballot initiative on ending childhood hunger*: Score 2 points for response of "Strongly support" and 1 point for response of "Somewhat support" to question D16, "Would you support or oppose a state ballot initiative to require your state government to work to end childhood hunger?"
- *Immigrant access to food stamps*: Score 1 point for response of "Strongly agree" or "Somewhat agree" with statement in question D17, "All immigrants who are in the United States legally should be eligible for food assistance, such as food stamps." (This question may have been misinterpreted by some respondents to indicate unqualified eligibility rather than eligibility conditional on the same income, asset, and other criteria applied to citizens. The question should be revised if it is used in further surveys. In the preliminary index, this question was entered as a trichotomy, with 2 points for response of "Strongly disagree" and 1 point for response of "Somewhat disagree." The item did not discriminate adequately as a trichotomy, but performed adequately coded as a dichotomy as described above.)
- *Expanding food assistance programs*: Score 2 points for response of "Strongly favor" and 1 point for response of "Somewhat favor" to question D24, "Some experts say that we could cut hunger and food insecurity in half in the United States by improving and expanding nutrition programs

like food stamps and school breakfast programs for children. This would cost about \$18 billion a year. Would you favor or oppose making an effort of this size to cut hunger and food insecurity in half in our country?"

In the analysis of the final combined scale, item-infit statistics ranged from 0.75 for "Supportive of candidate working to reduce hunger" (the item most strongly associated with the latent trait) to 1.27 for "Expanding food assistance programs" (the item most weakly associated with the latent trait). Outfit statistics were marginally too high (indicating erratic answers) for 2 items, "Adequacy of political discussion of hunger" (outfit 1.45) and "Immigrant access to food stamps" (outfit 1.43). Fit statistics were somewhat better when the 2 subscales (political salience and general concern) were analyzed separately. Item-infit statistics ranged from 0.78 to 1.15 and outfits from 0.68 to 1.27. (An acceptable range for mean square item-fit statistics for survey-based measurement is 0.6 to 1.4.<sup>7</sup> Items with infits somewhat higher than 1.4—perhaps as high as 2.0—may not substantially degrade measurement performance but will not contribute positively to measurement.<sup>7</sup>)

Raw score was used to represent this measure in the regression analysis. Technically the scaled measure is a better linear representation of the latent trait, but the 2 were so highly correlated that raw score served equally well and is more readily reproducible by researchers who may wish to replicate the analysis.

## APPENDIX C

The Association of Respondent's Perception of the Meaning of Hunger With Their Personal Characteristics, Political Preferences, and the Extent to Which They Consider Hunger to Be a Salient Societal Problem and a Political and Moral Issue

An ordinary least squares regression model was estimated to assess the extent to which respondent characteristics, political preference, and the extent to which they considered hunger to be a salient societal problem and political and moral issue was associated with their perception of the severity of the condition that should be described as hunger.

For the entire sample, the median perception was that scenario QH3 (people sometimes could not afford to eat enough and had stomach pains, but they did not feel weak or dizzy) described the least severe scenario that should be described as hunger. The median for all subgroups was either this scenario or the next more severe scenario. A dichotomous dependent variable was, therefore, created for the regression model, coded 1 if the respondent answered that QH3 "Is hunger" and 0 if the respondent answered that QH3 "Might be hunger" or "Is not hunger." A linear probability

**TABLE C-1** Coefficients from Ordinary Least Squares Regression of Whether Respondents Considered that Scenario QH3 (People Sometimes Could not Afford to Eat Enough and Had Stomach Pains, but They Did not Feel Weak or Dizzy) Should be Called Hunger

Characteristic	Coeff.	Prob.
Intercept	0.258	.190
Salience of hunger as a societal problem and political issue (range 0–15)	.021	<.001
Very liberal	.055	.096
Somewhat liberal	–.094	
Moderate or no response	Reference	
Somewhat conservative	–.008	
Very conservative	–.076	
Republican	.025	.637
Independent, other, or no response	Reference	
Democrat	.040	
Annual income less than \$20 000	Reference	.014
Annual income \$20 001 to \$40 000	.045	
Annual income \$40 001 to \$60 000	–.078	
Annual income \$60 001 to \$75 000	–.022	
Annual income \$75 001 or higher	–.034	
Annual income not reported	.102	
Age (years)	.010	.084
Age squared	–.00001	
Female	–.028	.387
Single, never married	.017	.698
Married	Reference	
Separated or divorced	.069	
Widowed	.010	
White non-Hispanic, Asian, other, and not reported	Reference	.075
African American/black	–.086	
Hispanic/Latino	.129	
Urban	.086	.008
Suburban and not reported	Reference	
Rural	–.061	
Northeast census region	Reference	.108
Midwest census region	–.102	
South census region	–.035	
West census region	–.096	
N = 933		
R-squared (adjusted) = .056		

Source: Calculated by the authors using data from the McLaughlin & Associates 2007 survey of likely voters, sponsored by The Alliance to End Hunger.

model was estimated rather than a logistic regression because of the ease of interpretation of the R-squared from the linear probability model. Because the mean of the dependent variable is near 0.5 for the population and did not vary greatly across subpopulations, the distortion due to using the linear probability model is likely to be slight.

The regression results are presented in Table C-1. The most important finding is that respondents’ perceptions of the meaning of hunger are only

weakly associated with the characteristics in the model. The adjusted R-squared for the model was only .056. In other words, only about 5.6% of the variation in perception of whether scenario QH3 is hunger was associated with the characteristics included in the model. A substantial share of the association was accounted for by the extent to which the respondent considered hunger to be a salient issue. For each additional raw score point in the 15-point hunger salience index, the probability of considering QH3 severe enough to be called hunger increased by 2.1% age points (regression coefficient is .021). With that variable omitted from the model (analysis not shown), the R-squared was only .037.

The weakness of this association suggests that it is generally incorrect to attribute a person's view of the meaning of hunger to his or her political beliefs or to his or her concern or lack of concern about hunger.